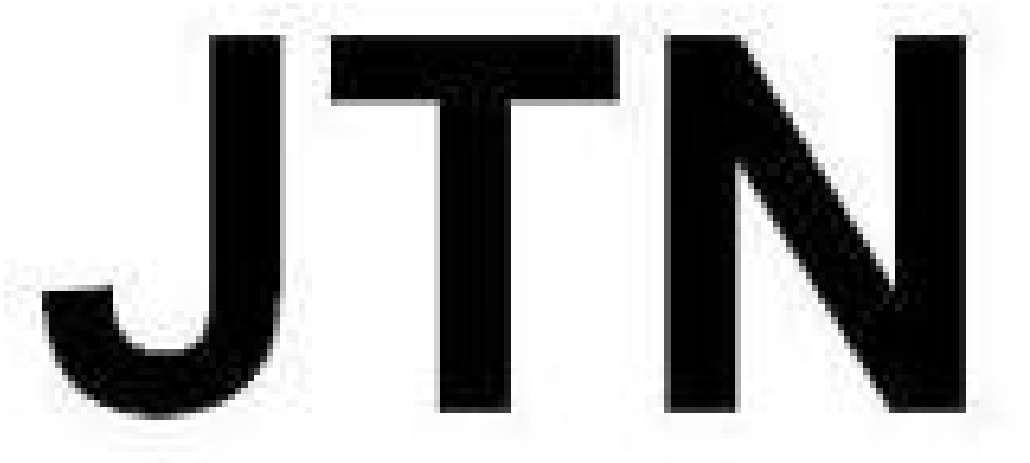
Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-284



Joint Tactical Networks (JTN)

As of FY 2015 President's Budget

Defense Acquisition Management
Information Retrieval
(DAMIR)

Report Documentation Page

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Common Acronyms and Abbreviations

Acq O&M - Acquisition-Related Operations and Maintenance
APB - Acquisition Program Baseline
APPN - Appropriation
APUC - Average Procurement Unit Cost
BA - Budget Authority/Budget Activity
BY - Base Year
DAMIR - Defense Acquisition Management Information Retrieval
Dev Est - Development Estimate
DoD - Department of Defense
DSN - Defense Switched Network
Econ - Economic
Eng - Engineering
Est - Estimating
FMS - Foreign Military Sales
FY - Fiscal Year
IOC - Initial Operational Capability
$K - Thousands of Dollars
LRIP - Low Rate Initial Production
$M - Millions of Dollars
MILCON - Military Construction
N/A - Not Applicable
O&S - Operating and Support
Oth - Other
PAUC - Program Acquisition Unit Cost
PB - President's Budget
PE - Program Element
Proc - Procurement
Prod Est - Production Estimate
QR - Quantity Related
Qty - Quantity
RDT&E - Research, Development, Test, and Evaluation
SAR - Selected Acquisition Report
Sch - Schedule
Spt - Support
TBD - To Be Determined
TY - Then Year
UCR - Unit Cost Reporting

Program Information

Program Name

Joint Tactical Networks (JTN)

DoD Component

Army

Joint Participants

Army; Navy; Air Force

Responsible Office

Responsible Office

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DSN Phone --
DSN Fax --

Date Assigned September 15, 2011

References

SAR Baseline (Development Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated June 24, 2002

Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated December 21, 2009

Mission and Description

Joint Tactical Networks (JTN) develops and sustains portable, interoperable, and mobile ad hoc networking software-defined waveforms for Joint operations, as well as the associated network manager for these waveforms. Networking software-defined waveforms include: the Soldier Radio Waveform (SRW), the Wideband Networking Waveform (WNW), the Mobile User Objective System (MUOS) waveform, and the Link-16 waveform. The Joint Enterprise Network Manager supports network management functions (planning, provisioning, monitoring, and controlling) of the SRW, WNW, and MUOS waveforms. These waveforms, as well as 14 other legacy waveforms that have are coded as software-defined waveforms, are capable of operating in a variety of hardware radio platforms for both Programs of Record and commercial, Non-Developmental Items. This model of common Government controlled waveforms and network manager capable of being instantiated upon multiple various hardware radios systems enables Joint interoperability for tactical networks across the military services and fosters a competitive marketplace for multiple vendors to provide competitively priced interoperable products. Project Manager JTN employs a competitive contracting strategy for software sustainment of the waveforms and the network manager to ensure warfighter access to the best technology and innovative capabilities while addressing emerging threats and future requirements via an affordable, operationally effective, and timely framework.

Executive Summary

In a July 2012 Acquisition Decision Memorandum (ADM), the Under Secretary of Defense for Acquisition, Technology and Logistics, as Milestone Decision Authority (MDA), approved the transition of the Joint Program Executive Office Joint Tactical Radio System (JTRS) to the Joint Tactical Networking Center (JTNC). With this transition, the program management and execution responsibility of the JTNC was assigned to the Army, the JTRS hardware programs were transitioned to the respective Military Department-managed programs, and JTRS Network Enterprise Domain was renamed the Joint Tactical Networks (JTN) program with the Army designated as lead Service. In October 2012, the Army assigned the JTNC and the JTN program as Project Manager (PM) JTN to the Program Executive Office (PEO) for Command, Control and Communications – Tactical.

On January 20, 2014, the MDA signed a follow-on ADM assigning responsibility for establishing and maintaining a Waveform Information Repository for all DoD waveforms; sustainment and evolution of the Software Communications Architecture (SCA), Application Program Interfaces, wireless communications standards; and compliance and certification assessments to the JTNC. This ADM delegated responsibility for the development and sustainment of the Joint Enterprise Network Manager (JENM) as a Joint product and the identification of interoperability issues to PM JTN. The ADM also established a JTNC Board of Directors which will meet at least annually to address waveform issues within the DoD. Current JTN waveforms will be transitioned to the individual Military Departments for sponsorship by 4th Quarter FY 2015. Specifically, Soldier Radio Waveform (SRW), Single Channel Ground Air Radio System (SINCGARS), and Wideband Networking Waveform (WNW) will transition to the Army for maintenance, sustainment and upgrades while Mobile User Objective System (MUOS) and Link-16 will transition to the Navy for maintenance, sustainment and upgrades. The other JTRS developed / JTN managed software-defined versions of legacy waveforms will be sponsored by the individual Services.

Currently, PM JTN actively manages and is funded only to develop, update and sustain SRW, WNW, MUOS, Link-16, and JENM. PM JTN has the capability to enhance, update, and sustain the following waveforms via a reimbursable basis: the High Frequency waveform, the HAVE QUICK II (HQII) waveform, the JTRS Bowman Waveform (JBW), the SINCGARS waveform, the Ultra High Frequency (UHF) Satellite Communications waveforms, and the Very High Frequency/UHF Line of Sight (VULOS) waveforms. A description of product development and sustainment activities conducted in FY 2013 follows for products programmed and funded by PM JTN as well as products supported via reimbursable funds received in FY 2013.

Soldier Radio Waveform (SRW):

SRW previously completed software Formal Qualification Testing (FQT) in January 2009, and was a key component of the Handheld, Manpack and Small Form Fit (HMS) Rifleman Radio Initial Operational Test & Evaluation (IOT&E) conducted at Network Integration Evaluation (NIE) 12.1 in November 2011 and the HMS Manpack (MP) Multi-Service OT&E (MOT&E) conducted at NIE 12.2 in May 2012. It has been subsequently fielded on over 16,500 HMS Rifleman Radios as well as over 2,300 HMS MPs.

There are two on-going updates to the SRW waveform baseline. First, an initial Combat Net Radio (CNR) voice pre-emption capability which allows call participants with higher precedence levels to pre-empt the current active speaker within the same call group was delivered in December 2013. The full CNR capability is on-track for delivery in August 2014. A second critical update to the SRW waveform baseline was initiated in September 2013, to add an Over-The-Air (OTA) Management capability. This capability will encompass OTA-Transfer, OTA-Zeroize, and OTA-dissemination of updated network configuration. This capability is on-track for delivery by July 2015.

In December 2013, Harris Corporation delivered the Waveform Development Environment / Waveform Test Environment via Task Order (TO) 3 on their Software In-Service Support (SwISS) contract with JTN. Harris was also

issued TO 5 in August 2013, a maintenance TO that allows Harris to fix, integrate and test changes necessary to correct previously identified defects. These fixes are on-track for delivery in July 2014.

Wideband Networking Waveform (WNW):

WNW successfully completed software FQT in December 2009 in support of the former Ground Mobile Radio program. Resolution of previously identified defects and defects identified during recent OTA tests is ongoing to support the scheduled IOT&E of the Mid-Tier Networking Vehicular Radio (MNVR) in November 2015 and fielding to the Brigade Combat Teams (BCT) beginning in September 2016.

There are two on-going upgrades by the software sustainment contractor, General Dynamics Command, Control, Communications, & Computers Systems, to the WNW waveform baseline via a TO on their SwISS contract. First, the WNW functionality of the High Assurance Internet Protocol Encryptor is being redesigned and modified for better system compatibility. Second, the WNW Mobile Ad hoc Network functionality is being modified for better waveform efficiency to include implementation of: 1) adaptive preamble acquisition control; 2) faster detection of failed links; 3) NiB cycle right sizing; and 4) faster net merge/entry. These upgrades will increase waveform efficiency, and are on-track for delivery in 2nd Quarter FY 2014.

A maintenance update that includes critical Information Assurance (IA) corrections, SCA corrections, and high priority correction to defects identified in Software Anomaly Reports (SAR) was delivered in early August 2013 via a SwISS TO. This update supported PM MNVR during Army Ground/Air Integrated Network Experiment (AGAINE) testing in September 2013, where 89 WNW nodes (threshold = 100 nodes) were successfully implemented in a mobile field environment at Fort Huachuca, Arizona. Additional maintenance fixes are ongoing to correct defects identified in new SARs, IA findings, as well as scalability and efficiency issues identified during the AGAINE testing.

Mobile User Objective System (MUOS) waveform:

MUOS, v3.1 successfully completed FQT in November 2012.

A maintenance update to the waveform baseline (v3.1.1) was delivered in July 2013 via the PEO Space Systems' MUOS networked constellation contract. This update provided for the correction of 46 Program Change Requests (PCRs) and resolved all IA defects.

The National Security Agency (NSA) conducted IA assessment testing of the MUOS baseline waveform architecture and software design. NSA formally accepted the baseline waveform in an October 2013 acceptance letter.

An additional maintenance update (v3.1.2) with over 200 PCR fixes was completed in January 2014 and is in delivery acceptance processing by PM JTN. This release was primarily focused on resolving issues identified during live, OTA tests of the MUOS system identified and corrected since the July 2013 update.

PM JTN is working closely with Navy's MUOS Program Office (PMW-146) and PM Tactical Radios (TR) to support MUOS End-to-End operational Risk Reduction events (RR2A and RR2B) and HMS Manpack Terminal (HMT) Technical Evaluation in preparation for MUOS MOT&E. The next MUOS waveform baseline (v3.1.3) will provide an initial incremental update by March 2014 to support resolution of defects determined during the subsequent RR2 over-the-air tests and rehearsals.

Link-16 software-defined waveform:

Link-16 successfully completed FQT in April 2009 and has been fielded with the Multifunctional Information Distribution System (MIDS) JTRS radio in support of F/A-18E/F aircraft beginning in December 2009. The NSA

adjudicated all architecture and software design IA findings on Link-16 v1.06.0.2 in August 2013 and considers the waveform to be an acceptable baseline. The formal NSA acceptance letter was received in November 2013. A MIDS on-ship upgrade, which will provide Navy surface ships with a cryptographic modernized Link-16 waveform capable of running on a MIDS-J terminal, is being developed in parallel with the MIDS Block Cycle 2 upgrade, and is on-track for delivery in May 2014 via the BAE SwISS contract with JTN. A separate baseline waveform maintenance TO was issued to BAE to correct 34 baseline defects, and is on-track for delivery in July 2014. A subsequent follow-on effort is planned to merge these two baseline branches by 4th Quarter FY 2014.

Joint Enterprise Network Manager (JENM):

JENM successfully completed FQT in December 2012 and is scheduled for fielding with the HMS MP beginning in 4th Quarter FY 2014.

The JENM application has been successfully integrated into the Army's Joint-Tactical Networking Environment Network Operations Toolkit (J-TNT) and is being fielded with Capability Set-13 BCTs. Subsequently, JENM, as a part of J-TNT (v1.0.2), successfully configured approximately 1,200 radios (Harris PRC-117G and PRC-152A, Exelis "SideHat" radios, HMS PRC-155 and PRC-154A) at the NIE 13.2 conducted March through May 2013.

Three critical enhancements to the net manager were made by Boeing Phantom Works (BPW) on their SwISS contract: 1) a planning and provisioning capability for the MUOS waveform for the AN/PRC-155 (HMS MP) was delivered in June 2013; 2) a MUOS Dynamic planning Graphical User Interface (GUI) and a MUOS Simple Key Loader downloading capability for the MP was delivered in September 2013; and 3) WNW planning and downloader services were delivered in November 2013.

The initial version of the JENM Interface Control Document establishing the interfaces to waveforms and radios was released January 2013 (v1.0). This standard is being updated to support PM TR radio programs of record as well as the Non-Developmental Item radios. The standard is accessible via the Space and Naval Warfare Systems Command (SPAWAR) Net-Centric Enterprise Solutions for Interoperability collaboration site.

In January 2014, NSA made a determination that JENM used in conjunction with NSA certified products shall follow the DoD IA Certification and Accreditation Process for assessment and approval. This determination rescinded the Unified Information Security Criteria and eases many security requirement testing protocols for JENM.

In addition, NSA granted an Interim Approval to Test which allows JENM to participate in the MUOS End-to-End test. The test event successfully exercised the JENM Provisioned HMT to communicate over the MUOS-1 Satellite Vehicle and production ground system.

Ongoing usability maintenance updates to the baseline net manager are being made by BPW on their SwISS contract with PM JTN. These updates, which primarily focus on improvements to the GUI, were delivered in February 2014. Additional usability updates for FY 2014 have been identified, and will include the ability to configure the SRW pre-emption capability.

Single Channel Ground and Airborne Radio System (SINCGARS) software defined waveform:

This is a reimbursable funded effort in support of Airborne, Maritime, and Fixed Radio Program to add Extended Operating Mode, Frequency Hop and packet mode capabilities to the SINCGARS baseline waveform by SPAWAR System Center Atlantic (SSCLANT). An initial capability was delivered in December 2013 (v1.6) and the full capability is on-track for delivery in September 2014 (v1.6.1). A technical study was conducted via the Exelis SINCGARS SwISS contract to examine cost, schedule, and technical approach to possibly update the baseline waveform (v1.5) to increase both airborne and ground terminal interoperability.

JTRS Bowman Waveform (JBW) for US-UK Coalition Operations:

NSA conducted Delta IA assessment testing of the JBW baseline waveform (v2.2.6) architecture and software design and determined the waveform to be an acceptable baseline. The JTN received the formal NSA acceptance letter in April 2013. The updated waveform was successfully demonstrated during field testing at Fort Dix, NewJersey in April 2013. There are currently no active TOs on the JBW SwISS contract with Exelis.

Merged VHF, UHF Line of Sight and HAVE QUICK II waveforms (VULOS/HQII):

This is a reimbursable funded effort in support of the U.S. Air Force. A final engineering delivery was provided by SSCLANT that merged the combined VULOS and HAVE QUICK II baseline waveforms into a common baseline which also included VHF Air Traffic Control Capabilities in September 2013. This was an efficient merge of the VULOS (73 thousand source lines of code (ksloc)) and HAVE QUICK II (71 ksloc) resulting in a single waveform product VULOS/HQII with only 85 ksloc.

There are no significant software-related issues with this program at this time.

Threshold Breaches

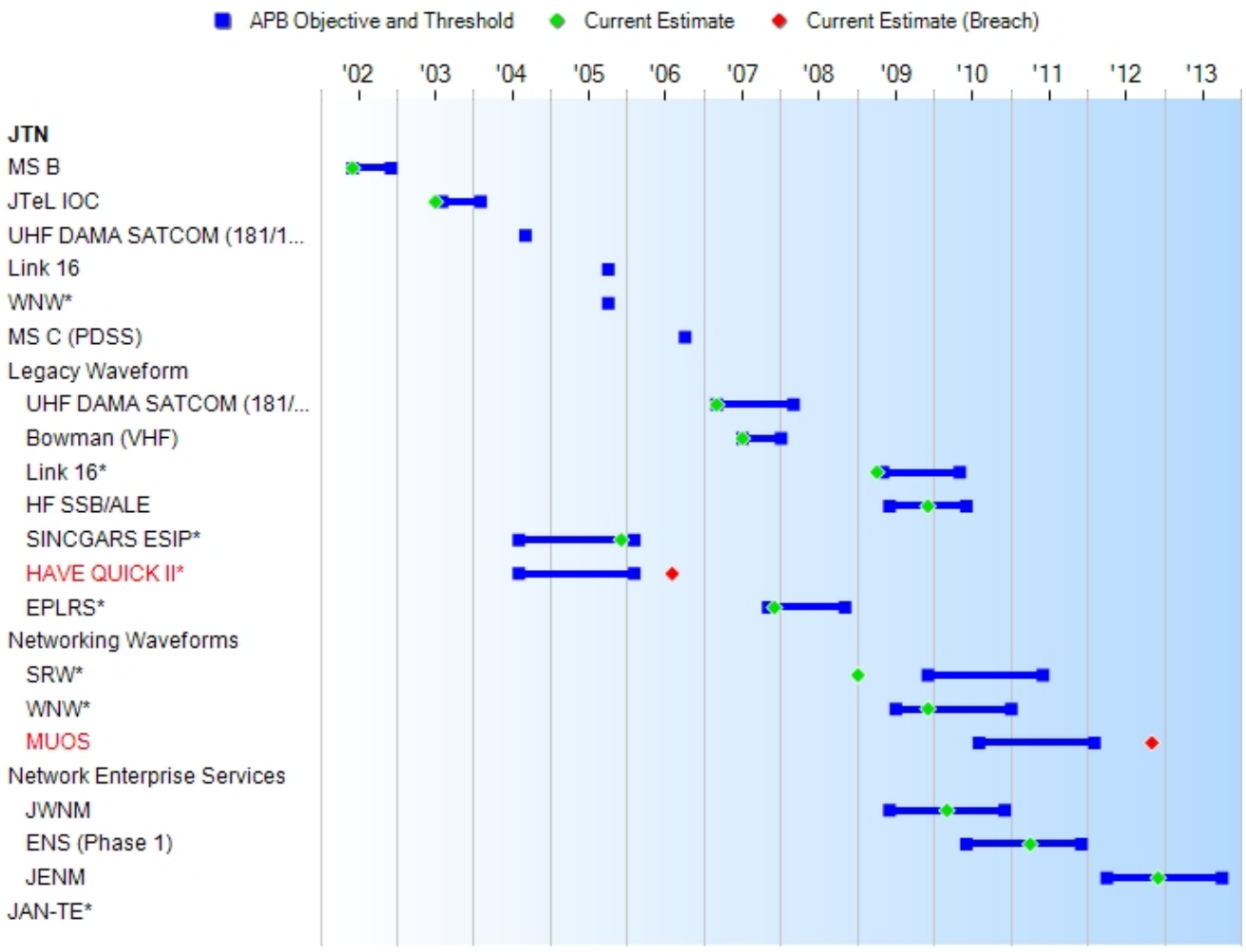
APB Breaches		
Schedule		☑
Performance		☐
Cost	RDT&E	☐
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
O&S Cost		☐
Unit Cost	PAUC	☐
	APUC	☐

Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Explanation of Breach

The HAVE QUICK II and Mobile User Objective System Formal Qualification Testing breaches were reported in the December 2006 SAR and September 2011 SAR, respectively.

Schedule


APB Objective and Threshold
Current Estimate
Current Estimate (Breach)
'02
'03
'04
'05
'06
'07
'08
'09
'10
'11
'12
'13
JTN
MS B
JTeL IOC
UHF DAMA SATCOM (181/1...
Link 16
WNW*
MS C (PDSS)
Legacy Waveform
UHF DAMA SATCOM (181/...
Bowman (VHF)
Link 16*
HF SSB/ALE
SINCGARS ESIP*
HAVE QUICK II*
EPLRS*
Networking Waveforms
SRW*
WNW*
MUOS
Network Enterprise Services
JWNM
ENS (Phase 1)
JENM
JAN-TE*

Milestones	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Current Estimate
MS B	JUN 2002	JUN 2002	DEC 2002	JUN 2002
JTeL IOC	AUG 2003	AUG 2003	FEB 2004	JUL 2003
UHF DAMA SATCOM (181/182/183)*	SEP 2004	N/A	N/A	N/A
Link 16	OCT 2005	N/A	N/A	N/A
WNW*	OCT 2005	N/A	N/A	N/A
MS C (PDSS)	OCT 2006	N/A	N/A	N/A
Legacy Waveform				
UHF DAMA SATCOM (181/182/183/184)*	N/A	MAR 2007	MAR 2008	MAR 2007
Bowman (VHF)	N/A	JUL 2007	JAN 2008	JUL 2007
Link 16*	N/A	MAY 2009	MAY 2010	APR 2009
HF SSB/ALE	N/A	JUN 2009	JUN 2010	DEC 2009
SINCGARS ESIP*	AUG 2004	AUG 2004	FEB 2006	DEC 2005
HAVE QUICK II*	AUG 2004	AUG 2004	FEB 2006	**AUG 2006** [1]
EPLRS*	MAR 2005	NOV 2007	NOV 2008	DEC 2007
Networking Waveforms				
SRW*	N/A	DEC 2009	JUN 2011	JAN 2009
WNW*	N/A	JUL 2009	JAN 2011	DEC 2009
MUOS	N/A	AUG 2010	FEB 2012	**NOV 2012** [1]
Network Enterprise Services				
JWNM	N/A	JUN 2009	DEC 2010	MAR 2010
ENS (Phase 1)	N/A	JUN 2010	DEC 2011	APR 2011
JENM	N/A	APR 2012	OCT 2013	DEC 2012
JAN-TE*	N/A	TBD	TBD	N/A

[1] *APB Breach*

Change Explanations

None

Memo

A star (*) denotes a Key Performance Parameter.

Acronyms and Abbreviations

ALE - Automatic Link Establishment
DAMA - Demand Assigned Multiple Access
ENM - Enterprise Network Manager
ENS - Enterprise Networking Services
EPLRS - Enhanced Position Location Reporting System
ESIP - Enhanced System Improvement Program
HF - High Frequency
JAN-TE - Joint Airborne Network - Tactical Edge
JTeL IOC - JTRS Technology Lab Initial Operational Capability
JWNM - JTRS WNW Network Manager
MS - Milestone
MUOS - Mobile User Objective System
PDSS - Post Deployment Sustainment Support
SATCOM - Satellite Communications
SINCGARS - Single Channel Ground and Airborne Radio System
SRW - Soldier Radio Waveform
SSB - Single Side Band
UHF - Ultra High Frequency
VHF - Very High Frequency
WNW - Wideband Networking Waveform

Performance

Characteristics	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Demonstrated Performance	Current Estimate
UHF DAMA SATCOM (181/182/183)*	225-400 MHz 5 and 25KHz 64Kbps	N/A	N/A	N/A	N/A
WNW*	2M-2GHz Scalable BW,BPS	N/A	N/A	N/A	N/A
Link 16	(960-121 5MHz) 3 MHz 118/236 Kbps w/FEC	N/A	N/A	N/A	N/A
Legacy Waveforms					
SINCGARS ESIP*	30-88MHz 25KHz 16Kbps	30-88MHz 25KHz 16Kbps	30-88MHz 25KHz 16Kbps	30-88MHz 25KHz 16Kbps	30-88MHz 25KHz 16Kbps
HAVE QUICK II*	225-400 MHz 25KHz 16Kbps	225-400 MHz 25KHz 16Kbps	225-400 MHz 25KHz 16Kbps	225-400 MHz 25KHz 16Kbps	225-400 MHz 25KHz 16Kbps
EPLRS*	420-450 MHz 3MHz (57Kbps VHSIC SIP 114Kbps VECP)	420MHz - 450MHz; 3MHz; (57Kbps, VHSIC SIP 228Kbps VECP)	420MHz - 450MHz; 3MHz; (57Kbps, VHSIC SIP 228Kbps VECP)	420MHz- 450MHz; 3MHz; (57Kbps, VHSIC SIP 228Kbps VECP)	420MHz- 450MHz; 3MHz; (57Kbps, VHSIC SIP 228Kbps VECP)
Bowman (VHF)	N/A	30MHz - 80MHz; 25KHz; 156Kbps	30MHz - 80MHz; 25KHz; 156Kbps	30MHz- 80MHz; 25KHz; 156Kbps	30MHz- 80MHz; 25KHz; 156Kbps
HF SSB/ALE	N/A	1.5MHz - 30MHz; 3Khz; VOICE: (A&D) DATA: 75, 150, 300, 600, 1200, 2400, 3200, 4800, 6400, 8000, 9600 bps per SSB channel	2.0MHz - 30MHz; 3KHz; VOICE: (A&D) DATA: 75, 150, 300, 600, 1200, 2400, 3200, 4800, 6400, 8000, 9600 bps per SSB channel	2.0MHz- 30MHz; 3KHz; VOICE: (A&D) DATA: 75, 150, 300, 600, 1200, 2400, 3200, 4800, 6400, 8000, 9600 bps per SSB channel	2.0MHz- 30MHz; 3KHz; VOICE: (A&D) DATA: 75, 150, 300, 600, 1200, 2400, 3200, 4800, 6400, 8000, 9600 bps per SSB channel

Link 16*	N/A	960MHz - 1215MHz; 3MHz; 118/1137 Kbps, w/FEC	960MHz - 1215MHz; 3MHz; 118/1137 Kbps, w/FEC	960MHz- 1215MHz ; 3MHz; 118/ 1137 Kbps, w/FEC	960MHz- 1215MHz ; 3MHz; 118/ 1137 Kbps, w/FEC
UHF DAMA SATCOM (181/182/183/184)*	N/A	225MHz - 400MHz; 5KHz & 25KHz; 75bps - 64Kbps	225MHz - 400MHz; 5KHz & 25KHz; 75bps - 56Kbps	225MHz- 400MHz; 5KHz & 25KHz; 75bps- 56Kbps	225MHz- 400MHz; 5KHz & 25KHz; 75bps- 56Kbps
Networking Waveforms					
WNW (Throughput) *	N/A	5Mbps	2Mbps	7Mbps	7Mbps
SRW (Network Throughput)*	N/A	1200Kbps	600Kbps	600Kbps	600Kbps
MUOS	N/A	240MHz - 320MHz; 5KHz & 25KHz; 2.4, 9.6, 16, 32, 64 Kbps	240MHz - 320MHz; 5KHz & 25KHz; 2.4, 9.6, 16, 32, 64 Kbps	240MHz- 320MHz; 5KHz & 25KHz; 2.4, 9.6, 16, 32, 64 Kbps	240MHz- 320MHz; 5KHz & 25KHz; 2.4, 9.6, 16, 32, 64 Kbps
Network Enterprise Services					
JWNM	N/A	Reconfigure 150 sets operating WNW in 5 min	Reconfigure 35 sets operating WNW in 10 min	TBD	Reconfigure 35 sets operating WNW in 10 min
ENM	N/A	Provide network planning, management and control of WNW, SRW, and MUOS on all Increment 1 form factors	Provide network planning, management and control of WNW, SRW, and MUOS on all Increment 1 form factors	TBD	Provide network planning, management and control of WNW, SRW and MUOS on all Increment 1 form factors
ENS	N/A	SINCGARS R/R IP data w/WNW, SRW and EPLRS on all applicable Increment 1 form factors (HF and UHF)	SINCGARS R/R IP data w/WNW, SRW and EPLRS on the GMR; SINCGARS R/R IP data with SRW and EPLRS on the HMS	TBD	SINCGARS R/R IP data w/WNW, SRW on the GMR; SINCGARS R/R IP data with SRW on the HMS MANPACK; WNW R/R IP

		SATCOM DAMA R/R IP data w/all applicable Increment 1 waveforms and form factors	MANPACK; WNW R/R IP data with HF and UHF SATCOM DAMA on the GMR		data with HF and UHF SATCOM DAMA on the GMR
JAN-TE (Network Throughput)*	N/A	TBD	TBD	TBD	TBD

Requirements Source

Operational Requirements Document (ORD) 3.2/3.2.1 (Increment 1) dated August 28, 2006

Change Explanations

None

Memo

Asterisk (*) Denotes Key Performance Parameter (KPP). Increment 1 focuses on initial near-term waveform software capability development of the KPP waveforms and network manager.

Per the December 21, 2009 Acquisition Decision Memorandum, the JAN-TE capability remains an unfunded requirement.

Acronyms and Abbreviations

A&D - Analog & Digital
ALE - Automatic Link Establishment
bps - Bits Per Second
BW - Bandwidth
DAMA - Demand Assigned Multiple Access
ENM - Enterprise Network Manager
ENS - Enterprise Networking Services
EPLRS - Enhanced Position Location Reporting System
ESIP - Enhanced System Improvement Program
FEC - Forward Error Correction
GHz - Gigahertz
GMR - Ground Mobile Radio
HF - High Frequency
HMS - Handheld, Manpack and Small Form Fit
IP - Internet Protocol
JAN-TE - Joint Airborne Network - Tactical Edge
JWNM - JTRS WNW Network Manager
Kbps - Kilo bits per second
KHz - Kilohertz
KPP - Key Performance Parameter
Mbps - Megabits Per Second
MHz - Megahertz
min - Minutes
MUOS - Mobile User Objective System
R/R - Routing/Retransmit
SATCOM - Satellite Communications
SINCGARS - Single Channel Ground and Airborne Radio System
SIP - Software Integration Plan
SRW - Soldier Radio Waveform
SSB - Single Side Band
UHF - Ultra High Frequency
VECP - Value Engineering Change Proposal
VHF - Very High Frequency
VHSIC - Very High Speed Integrated Circuit
WNW - Wideband Networking Waveform

Track to Budget

General Memo

During the year of execution, DoD transfers funding from RDT&E to Operations and Maintenance to support program requirements.

RDT&E

Appn		BA	PE		
Navy	1319	05	0604280N		
	Project		**Name**		
	3076		Joint Tactical Radio System (JTRS) Network Enterprise Domain (NED)		(Sunk)
Navy	1319	05	0605030N		
	Project		**Name**		
	3077		Joint Tactical Networking Center (JTNC)	(Shared)	
Army	2040	05	0604280A		
	Project		**Name**		
	162		Joint Tactical Radio System (JTRS) Network Enterprise Domain (NED)	(Shared)	(Sunk)
Army	2040	05	0605030A		
	Project		**Name**		
	EA8		Joint Tactical Networking Center (JTNC)	(Shared)	
Army	2040	05	0605031A		
	Project		**Name**		
	EF05		Joint Tactical Networks (JTN)		
Air Force	3600	05	0605030F		
	Project		**Name**		
	655068		Joint Tactical Networking Center (JTNC)	(Shared)	

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

Appropriation	BY2002 $M			BY2002 $M	TY $M		
	SAR Baseline Dev Est	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Dev Est	Current APB Development Objective	Current Estimate
RDT&E	812.9	1743.2	1917.5	1794.4	914.4	1961.8	2096.7
Procurement	0.0	0.0	--	0.0	0.0	0.0	0.0
Flyaway	--	--	--	0.0	--	--	0.0
Recurring	--	--	--	0.0	--	--	0.0
Non Recurring	--	--	--	0.0	--	--	0.0
Support	--	--	--	0.0	--	--	0.0
Other Support	--	--	--	0.0	--	--	0.0
Initial Spares	--	--	--	0.0	--	--	0.0
MILCON	0.0	0.0	--	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	812.9	1743.2	N/A	1794.4	914.4	1961.8	2096.7

Per the January 2014 Acquisition Decision Memorandum, the Joint Tactical Networking Center (JTNC) and Program Manager JTN have split. The JTNC budget is no longer captured in this Current Estimate (CE) for FY 2015 - FY 2033. The CE presented reflects approved FY 2011, FY 2012, FY 2013 reprogramming actions, realignments, and Small Business Innovative Research transfer.

Quantity	SAR Baseline Dev Est	Current APB Development	Current Estimate
RDT&E	0	0	0
Procurement	0	0	0
Total	0	0	0

The JTN products are not systems or end items. They are components of software-defined radios. Accordingly, the JTN Program has no unit quantities.
There is no production or deployment directly associated with the JTN Program. All production and deployment will be functions of military service purchases of software defined radios and their intended usage. Consequently, there will be no LRIP or Full Rate Production decisions associated with this program. (Para 3.4.2.1 of the Network Enterprise Domain Acquisition Strategy of February 2008).

Cost and Funding

Funding Summary

Appropriation and Quantity Summary
FY2015 President's Budget / December 2013 SAR (TY$ M)

Appropriation	Prior	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	To Complete	Total
RDT&E	1847.4	68.1	18.0	8.1	9.6	9.0	9.0	127.5	2096.7
Procurement	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2015 Total	1847.4	68.1	18.0	8.1	9.6	9.0	9.0	127.5	2096.7
PB 2014 Total	1826.3	68.1	15.6	8.4	8.4	8.7	8.7	140.1	2084.3
Delta	21.1	0.0	2.4	-0.3	1.2	0.3	0.3	-12.6	12.4

Quantity	Undistributed	Prior	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	To Complete	Total
Development	0	0	0	0	0	0	0	0	0	0
Production	0	0	0	0	0	0	0	0	0	0
PB 2015 Total	0	0	0	0	0	0	0	0	0	0
PB 2014 Total	0	0	0	0	0	0	0	0	0	0
Delta	0	0	0	0	0	0	0	0	0	0

Cost and Funding

Annual Funding By Appropriation

Annual Funding TY$
1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2007	--	--	--	--	--	--	221.5
2008	--	--	--	--	--	--	241.5
2009	--	--	--	--	--	--	207.5
2010	--	--	--	--	--	--	200.8
2011	--	--	--	--	--	--	115.4
2012	--	--	--	--	--	--	168.5
2013	--	--	--	--	--	--	59.3
2014	--	--	--	--	--	--	--
2015	--	--	--	--	--	--	--
2016	--	--	--	--	--	--	2.7
2017	--	--	--	--	--	--	3.2
2018	--	--	--	--	--	--	3.0
2019	--	--	--	--	--	--	3.0
2020	--	--	--	--	--	--	2.4
2021	--	--	--	--	--	--	2.5
2022	--	--	--	--	--	--	2.6
2023	--	--	--	--	--	--	2.6
2024	--	--	--	--	--	--	2.7
2025	--	--	--	--	--	--	3.0
2026	--	--	--	--	--	--	3.1
2027	--	--	--	--	--	--	3.2
2028	--	--	--	--	--	--	3.2
2029	--	--	--	--	--	--	3.3
2030	--	--	--	--	--	--	3.4
2031	--	--	--	--	--	--	3.4
2032	--	--	--	--	--	--	3.5

2033	--	--	--	--	--	--	3.6
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**1268.9**

Annual Funding BY$
1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2002 $M	Non End Item Recurring Flyaway BY 2002 $M	Non Recurring Flyaway BY 2002 $M	Total Flyaway BY 2002 $M	Total Support BY 2002 $M	Total Program BY 2002 $M
2007	--	--	--	--	--	--	194.4
2008	--	--	--	--	--	--	208.1
2009	--	--	--	--	--	--	176.5
2010	--	--	--	--	--	--	168.3
2011	--	--	--	--	--	--	94.4
2012	--	--	--	--	--	--	135.5
2013	--	--	--	--	--	--	46.9
2014	--	--	--	--	--	--	--
2015	--	--	--	--	--	--	--
2016	--	--	--	--	--	--	2.0
2017	--	--	--	--	--	--	2.4
2018	--	--	--	--	--	--	2.2
2019	--	--	--	--	--	--	2.1
2020	--	--	--	--	--	--	1.7
2021	--	--	--	--	--	--	1.7
2022	--	--	--	--	--	--	1.7
2023	--	--	--	--	--	--	1.7
2024	--	--	--	--	--	--	1.7
2025	--	--	--	--	--	--	1.9
2026	--	--	--	--	--	--	1.9
2027	--	--	--	--	--	--	1.9
2028	--	--	--	--	--	--	1.9
2029	--	--	--	--	--	--	1.9
2030	--	--	--	--	--	--	1.9
2031	--	--	--	--	--	--	1.9
2032	--	--	--	--	--	--	1.9
2033	--	--	--	--	--	--	1.9
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**1058.4**

Annual Funding TY$
2040 | RDT&E | Research, Development, Test, and Evaluation, Army

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
1998	--	--	--	--	--	--	11.0
1999	--	--	--	--	--	--	13.4
2000	--	--	--	--	--	--	35.5
2001	--	--	--	--	--	--	59.8
2002	--	--	--	--	--	--	72.7
2003	--	--	--	--	--	--	62.9
2004	--	--	--	--	--	--	105.6
2005	--	--	--	--	--	--	140.3
2006	--	--	--	--	--	--	131.7
2007	--	--	--	--	--	--	--
2008	--	--	--	--	--	--	--
2009	--	--	--	--	--	--	--
2010	--	--	--	--	--	--	--
2011	--	--	--	--	--	--	--
2012	--	--	--	--	--	--	--
2013	--	--	--	--	--	--	--
2014	--	--	--	--	--	--	68.1
2015	--	--	--	--	--	--	18.0
2016	--	--	--	--	--	--	2.7
2017	--	--	--	--	--	--	3.2
2018	--	--	--	--	--	--	3.0
2019	--	--	--	--	--	--	3.0
2020	--	--	--	--	--	--	2.4
2021	--	--	--	--	--	--	2.5
2022	--	--	--	--	--	--	2.6
2023	--	--	--	--	--	--	2.6
2024	--	--	--	--	--	--	2.7
2025	--	--	--	--	--	--	3.0
2026	--	--	--	--	--	--	3.1

2027	--	--	--	--	--	--	3.2
2028	--	--	--	--	--	--	3.2
2029	--	--	--	--	--	--	3.3
2030	--	--	--	--	--	--	3.4
2031	--	--	--	--	--	--	3.4
2032	--	--	--	--	--	--	3.5
2033	--	--	--	--	--	--	3.6
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**773.4**

Annual Funding BY$
2040 | RDT&E | Research, Development, Test, and Evaluation, Army

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2002 $M	Non End Item Recurring Flyaway BY 2002 $M	Non Recurring Flyaway BY 2002 $M	Total Flyaway BY 2002 $M	Total Support BY 2002 $M	Total Program BY 2002 $M
1998	--	--	--	--	--	--	11.4
1999	--	--	--	--	--	--	13.8
2000	--	--	--	--	--	--	36.0
2001	--	--	--	--	--	--	59.8
2002	--	--	--	--	--	--	71.9
2003	--	--	--	--	--	--	61.1
2004	--	--	--	--	--	--	100.2
2005	--	--	--	--	--	--	129.3
2006	--	--	--	--	--	--	118.1
2007	--	--	--	--	--	--	--
2008	--	--	--	--	--	--	--
2009	--	--	--	--	--	--	--
2010	--	--	--	--	--	--	--
2011	--	--	--	--	--	--	--
2012	--	--	--	--	--	--	--
2013	--	--	--	--	--	--	--
2014	--	--	--	--	--	--	52.5
2015	--	--	--	--	--	--	13.6
2016	--	--	--	--	--	--	2.0
2017	--	--	--	--	--	--	2.3
2018	--	--	--	--	--	--	2.1
2019	--	--	--	--	--	--	2.1
2020	--	--	--	--	--	--	1.6
2021	--	--	--	--	--	--	1.7
2022	--	--	--	--	--	--	1.7
2023	--	--	--	--	--	--	1.7
2024	--	--	--	--	--	--	1.7
2025	--	--	--	--	--	--	1.9
2026	--	--	--	--	--	--	1.9

2027	--	--	--	--	--	--	1.9
2028	--	--	--	--	--	--	1.9
2029	--	--	--	--	--	--	1.9
2030	--	--	--	--	--	--	1.9
2031	--	--	--	--	--	--	1.9
2032	--	--	--	--	--	--	1.9
2033	--	--	--	--	--	--	1.9
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**701.7**

Annual Funding TY$
3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2016	--	--	--	--	--	--	2.7
2017	--	--	--	--	--	--	3.2
2018	--	--	--	--	--	--	3.0
2019	--	--	--	--	--	--	3.0
2020	--	--	--	--	--	--	2.4
2021	--	--	--	--	--	--	2.5
2022	--	--	--	--	--	--	2.6
2023	--	--	--	--	--	--	2.6
2024	--	--	--	--	--	--	2.7
2025	--	--	--	--	--	--	3.0
2026	--	--	--	--	--	--	3.1
2027	--	--	--	--	--	--	3.2
2028	--	--	--	--	--	--	3.2
2029	--	--	--	--	--	--	3.3
2030	--	--	--	--	--	--	3.4
2031	--	--	--	--	--	--	3.4
2032	--	--	--	--	--	--	3.5
2033	--	--	--	--	--	--	3.6
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**54.4**

Annual Funding BY$
3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2002 $M	Non End Item Recurring Flyaway BY 2002 $M	Non Recurring Flyaway BY 2002 $M	Total Flyaway BY 2002 $M	Total Support BY 2002 $M	Total Program BY 2002 $M
2016	--	--	--	--	--	--	2.0
2017	--	--	--	--	--	--	2.4
2018	--	--	--	--	--	--	2.2
2019	--	--	--	--	--	--	2.1
2020	--	--	--	--	--	--	1.7
2021	--	--	--	--	--	--	1.7
2022	--	--	--	--	--	--	1.7
2023	--	--	--	--	--	--	1.7
2024	--	--	--	--	--	--	1.7
2025	--	--	--	--	--	--	1.9
2026	--	--	--	--	--	--	1.9
2027	--	--	--	--	--	--	1.9
2028	--	--	--	--	--	--	1.9
2029	--	--	--	--	--	--	1.9
2030	--	--	--	--	--	--	1.9
2031	--	--	--	--	--	--	1.9
2032	--	--	--	--	--	--	1.9
2033	--	--	--	--	--	--	1.9
Subtotal	**--**	**--**	**--**	**--**	**--**	**--**	**34.3**

Low Rate Initial Production

There is no LRIP for the JTN program.

Foreign Military Sales

None

Nuclear Costs

None

Unit Cost

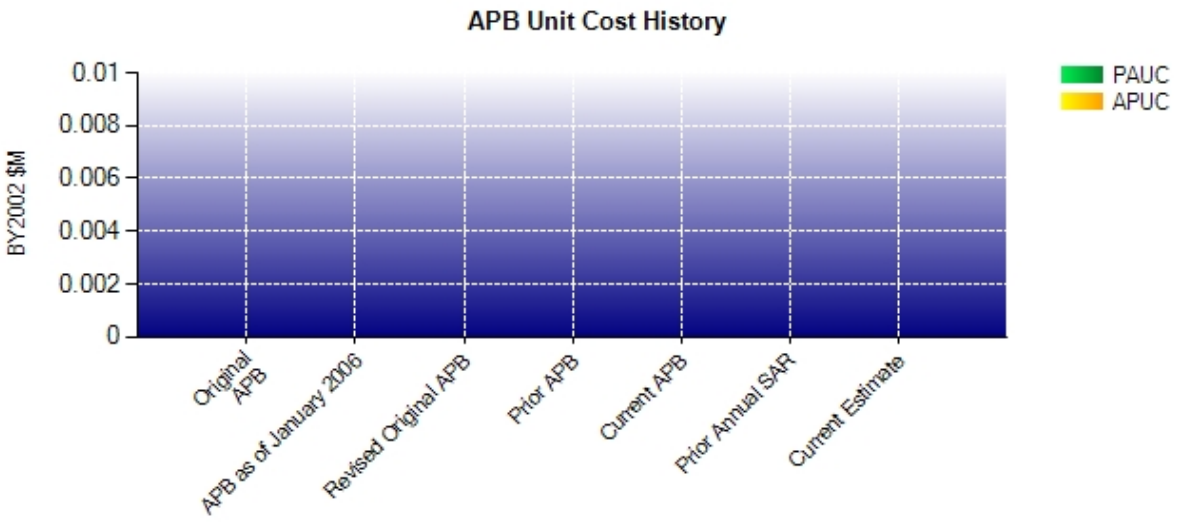
Unit Cost Report

Unit Cost	BY2002 $M Current UCR Baseline (DEC 2009 APB)	BY2002 $M Current Estimate (DEC 2013 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	1743.2	1794.4	
Quantity	0	0	
Unit Cost	--	--	--
Average Procurement Unit Cost (APUC)			
Cost	0.0	0.0	
Quantity	0	0	
Unit Cost	--	--	--

Unit Cost	BY2002 $M Original UCR Baseline (JUN 2002 APB)	BY2002 $M Current Estimate (DEC 2013 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	812.9	1794.4	
Quantity	0	0	
Unit Cost	--	--	--
Average Procurement Unit Cost (APUC)			
Cost	--	0.0	
Quantity	--	0	
Unit Cost	--	--	--

The JTN products are not systems or end items. They are components of software-defined radios. Accordingly, the JTN Program has no unit quantities.

Unit Cost History



		BY2002 $M		TY $M	
	Date	PAUC	APUC	PAUC	APUC
Original APB	JUN 2002	N/A	N/A	N/A	N/A
APB as of January 2006	JUN 2002	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	JAN 2008	N/A	N/A	N/A	N/A
Current APB	DEC 2009	N/A	N/A	N/A	N/A
Prior Annual SAR	DEC 2012	N/A	N/A	N/A	N/A
Current Estimate	DEC 2013	N/A	N/A	N/A	N/A

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY $M)

Initial PAUC Dev Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.000	--	--	--	--	--	--	--	--	0.000

PAUC Unit Cost History is not available: No Initial PAUC Estimate calculated due to lack of defined quantities.

Current SAR Baseline to Current Estimate (TY $M)

Initial APUC Dev Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.000	--	--	--	--	--	--	--	--	0.000

APUC Unit Cost History is not available: No Initial APUC Estimate calculated due to lack of defined quantities.

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Milestone A	N/A	N/A	N/A	N/A
Milestone B	N/A	JUN 2002	N/A	JUN 2002
Milestone C	N/A	OCT 2006	N/A	N/A
IOC	N/A	N/A	N/A	N/A
Total Cost (TY $M)	N/A	914.4	N/A	2096.7
Total Quantity	N/A	0	N/A	0
Prog. Acq. Unit Cost (PAUC)	N/A	N/A	N/A	N/A

The JTN products are not systems or end items. They are components of software-defined radios. Therefore, the JTN Program has no Milestone C.

Cost Variance

Summary Then Year $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Dev Est)	914.4	--	--	914.4
Previous Changes				
Economic	+32.7	--	--	+32.7
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	+725.3	--	--	+725.3
Estimating	+411.9	--	--	+411.9
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+1169.9	--	--	+1169.9
Current Changes				
Economic	-1.7	--	--	-1.7
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+14.1	--	--	+14.1
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+12.4	--	--	+12.4
Total Changes	+1182.3	--	--	+1182.3
CE - Cost Variance	2096.7	--	--	2096.7
CE - Cost & Funding	2096.7	--	--	2096.7

Summary Base Year 2002 $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Dev Est)	812.9	--	--	812.9
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	+648.1	--	--	+648.1
Estimating	+320.1	--	--	+320.1
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+968.2	--	--	+968.2
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	--	--	--	--
Estimating	+13.3	--	--	+13.3
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+13.3	--	--	+13.3
Total Changes	+981.5	--	--	+981.5
CE - Cost Variance	1794.4	--	--	1794.4
CE - Cost & Funding	1794.4	--	--	1794.4

Previous Estimate: December 2012

RDT&E	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	-1.7
Adjustment for current and prior escalation. (Estimating)	+1.6	+1.9
Increase reflects Program Executive Office funding realignment from Air Force in support of the Air Force unique requirements; Single Channel Ground and Airborne Radio System and Airworthiness (Navy). (Estimating)	+16.5	+20.5
Increase reflects execution realignment from Handheld, Manpack and Small Form Fit to cover shared facilities (Navy). (Estimating)	+2.1	+2.7
Decrease reflects Small Business Innovation Research and Small Business Technology Transfer Assessment (Navy). (Estimating)	-1.7	-2.1
Revised estimate reflects updated cost methodologies based on actuals to date. (Subtotal)	-8.5	-13.4
Decrease reflects the removal of costs associated with the Joint Tactical Networking Center (JTNC) organization from the Program Manager (PM) JTN program (Navy). (Estimating)	(-3.1)	(-4.7)
Decrease reflects the removal of costs associated with the JTNC organization from the PM JTN program (Army). (Estimating)	(-2.7)	(-4.5)
Decrease reflects the removal of costs associated with the JTNC organization from the PM JTN program (Air Force). (Estimating)	(-2.7)	(-4.2)
Revised estimate to reflect actuals (Navy). (Estimating)	+0.5	+0.7
Revised estimate to reflect actuals (Army). (Estimating)	+2.3	+3.0
Revised estimate to reflect actuals (Air Force). (Estimating)	+0.5	+0.7
Revised estimate reflects transfer of funding to Army Program Element for execution. (Subtotal)	-0.1	0.0
Decrease reflects annual transfer of Navy RDT&E to the executing agent, Army (Navy). (Estimating)	(-4.0)	(-5.2)
Increase reflects annual transfer of Navy and Air Force RDT&E to the executing agent, Army (Army). (Estimating)	(+7.9)	(+10.4)
Decrease reflects annual transfer of Air Force RDT&E to the executing agent, Army (Air Force). (Estimating)	(-4.0)	(-5.2)
Revised estimate to reflect miscellaneous budget adjustments (Navy). (Estimating)	+0.1	+0.1
RDT&E Subtotal	+13.3	+12.4

Contracts

Appropriation: RDT&E	
Contract Name	**SINCGARS SwISS**
Contractor	ITT Corporation
Contractor Location	1919 W COOK RD FORT WAYNE, IN 46818
Contract Number, Type	N00039-09-D-0020/1, CPFF/CPIF
Award Date	May 15, 2009
Definitization Date	April 29, 2013

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price at Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
62.0	N/A	0	62.0	N/A	0	29.2	29.2

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	0.0	0.0
Previous Cumulative Variances	--	--
Net Change	+0.0	+0.0

Cost and Schedule Variance Explanations

None

General Contract Variance Explanation

Contract performance data is not required for this contract, as no active task order exists that exceeds the monetary threshold for earned value metrics reporting.

Contract Comments

The Single Channel Ground and Airborne Radio System (SINCGARS)/Enterprise Network Services (ENS) Phase 1 (Software Internet Controller (SoftINC)) Software In-Service Support contract is a hybrid Indefinite Delivery/Indefinite Quantity (ID/IQ) cost type contract. This contract provides for technical/general support (Cost Plus Fixed Fee), upgrades/maintenance (Cost Plus Incentive Fee (CPIF)) as well as enhancements (CPIF) for the waveform/net services. The contract was awarded to ITT/Exelis in May 2009 with a contract price of $62.0M and a five-year period of performance. There are five Task Orders (TOs) on contract; all five are complete. At time of contract award, TO 1 (SoftINC) was awarded, and because the value was greater than $20M, a monthly Cost Performance Report (CPR) Contract Data Requirements List (CDRL) was required for upload to the Defense Cost and Resource Center Earned Value Metrics (EVM) repository. The SoftINC Formal Qualification Test was completed in April 2011 and the TO was closed out in November 2011, eliminating the monthly CPR CDRL requirement.

(1) Task Order 1: ENS Phase 1: SoftINC; Value = $25.2M; Period of Performance is Complete; EVMS = Yes.
(2) Task Order 2: Technical Support; Value = $0.133M; Period of Performance is Complete; EVMS = No.
(3) Task Order 3: General Support; Value = $0.319M; Period of Performance is Complete; EVMS= No.
(4) Task Order 4: Packet Mode; Value = $1.7M; Period of Performance is Complete; EVMS = No.
(5) Task Order 5: Technical Support; Value = $1.8M; Period of Performance is complete; EVMS = No.

Option Period 3 has been exercised, which extends the Period of Performance of this contract to May 2014, however, no new TOs are anticipated for award in FY 2014.

Contractor and PM Estimated Ceiling Price is N/A because of the ID/IQ nature of the contracts. Estimate at Completion is the sum of the awarded task orders under the contract.

Appropriation: RDT&E

Contract Name	**UHF/HF SwISS**
Contractor	Rockwell Collins, Inc.
Contractor Location	400 COLLINS ROAD NE CEDAR RAPIDS, IA 52406
Contract Number, Type	N00039-09-D-0021, CPFF/CPIF
Award Date	June 19, 2009
Definitization Date	June 04, 2013

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price at Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
23.9	N/A	0	45.4	N/A	0	21.3	21.3

Target Price Change Explanation

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	0.0	0.0
Previous Cumulative Variances	--	--
Net Change	+0.0	+0.0

Cost and Schedule Variance Explanations

None

General Contract Variance Explanation

Contract performance data is not required for this contract, as no active task order exists that exceeds the monetary threshold for earned value metrics reporting.

Contract Comments

The High Frequency/Ultra High Frequency SATCOM (HF/UHF SATCOM) Software In-Service Support contract is a hybrid Indefinite Delivery/Indefinite Quantity (ID/IQ) cost type contract. This contract provides for technical/general support (Cost Plus Fixed Fee), upgrades/maintenance (Cost Plus Incentive Fee (CPIF)) as well as enhancements (CPIF) for the waveform/net services. The contract was awarded to Rockwell Collins, Inc. in June 2009 with a contract price of $45.4M and a five-year period of performance. There are five task orders (TOs) on contract, and all five are complete. Specifically, at time of contract award, TO 1 Tactical Data Controller (TDC) was awarded, and because the value was greater than $20M, a monthly Cost Performance Report (CPR) Contract Data Requirements List (CDRL) was required for upload to the Defense Cost and Resource Center Earned Value Metrics (EVM) repository. The TDC Formal Qualification Test was completed in April 2011 and the TO was closed out in September 2011, eliminating the monthly CPR CDRL requirement.

(1) Task Order 1: Enterprise Network Services Phase 1: TDC; Value = $20.5M; Period of Performance is Complete; EVMS = Yes.
(2) Task Order 2: Technical Support; Value = $0.187M; Period of Performance is Complete; EVMS = No.
(3) Task Order 3: HF Information Assurance (IA) Lean Six Sigma; Value = $0.136M; Period of Performance is Complete; EVMS = No.
(4) Task Order 4: Full Duplex; Value = $0.325M; Period of Performance is Complete; EVMS = No.
(5) Task Order 5: HF IA Burn-down; Value = $0.143M; Period of Performance is Complete; EVMS = No.

Option Period 3 has been exercised, which extends the Period of Performance of this contract to June 2014, however, no new TOs are anticipated for award in FY 2014.

Contractor and PM Estimated Ceiling Price is N/A because of the ID/IQ nature of the contracts. Estimate at Completion is the sum of the awarded task orders under the contract.

Appropriation: RDT&E

Contract Name	**Bowman VHF WF**
Contractor	ITT Corporation
Contractor Location	1919 W COOK RD FORT WAYNE, IN 46818
Contract Number, Type	N00039-10-D-0047, CPFF/CPIF
Award Date	September 16, 2010
Definitization Date	September 25, 2012

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price at Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
49.5	N/A	0	49.5	N/A	0	4.9	4.9

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	0.0	0.0
Previous Cumulative Variances	--	--
Net Change	+0.0	+0.0

Cost and Schedule Variance Explanations

None

General Contract Variance Explanation

Contract performance data is not required for this contract, as no active task order exists that exceeds the monetary threshold for earned value metrics reporting.

Contract Comments

The JTRS Bowman (JBW) Software In-Service Support (SwISS) contract is a hybrid Indefinite Delivery/Indefinite Quantity (ID/IQ) cost type contract. This contract provides for technical/general support (Cost Plus Fixed Fee), upgrades/maintenance (Cost Plus Incentive Fee (CPIF)) as well as enhancements (CPIF) for the waveform. The contract value is $49.5M. There are five Task Orders (TO) on the contract, and all TOs are complete. None of these efforts require Earned Value Management (EVM).

(1) Task Order 1: SwISS Information Assurance (IA) Standards; Value = $4.5M; Period of Performance is Complete; EVMS = No.
(2) Task Order 2: Test and Evaluation on Technical Support for Communication and Electronic Security Group; Value = $0.074M; Period of Performance is Complete; EVMS = No.
(3) Task Order 3: Technical Maintenance/Support for Radios; Value = $0.027M; Period of Performance is Complete; EVMS = No.
(4) Task Order 4: Re-port JBW on Soldier Radio Multifunction; Value = $0.051M; Period of Performance is Complete; EVMS = No.
(5) Task Order 5: IA Remediation; Value = $0.297M; Period of Performance is Complete; EVMS = No.

No new TOs are anticipated for award in FY 2014.

Contractor and PM Estimated Ceiling Price is N/A because of the ID/IQ nature of the contracts. Estimate at Completion is the sum of the awarded task orders under the contract.

Appropriation: RDT&E

Contract Name	**Wideband Networking WF**
Contractor	General Dynamics C4 SYSTEMS, Inc.
Contractor Location	8201 E MCDOWELL RD SCOTTSDALE, AZ 85257
Contract Number, Type	N65236-11-D-4806, CPFF/CPIF
Award Date	September 20, 2011
Definitization Date	April 17, 2013

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price at Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
64.6	N/A	0	64.6	N/A	0	16.3	16.3

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	0.0	0.0
Previous Cumulative Variances	--	--
Net Change	+0.0	+0.0

Cost and Schedule Variance Explanations

None

General Contract Variance Explanation

Contract performance data is not required for this contract, as no active task order exists that exceeds the monetary threshold for earned value metrics reporting.

Contract Comments

The Wideband Networking Waveform (WNW) Software In-Service Supportcontract is a hybrid Indefinite Delivery/Indefinite Quantity (ID/IQ) cost type contract. This contract provides for technical/general support (Cost Plus Fixed Fee), upgrades/maintenance (Cost Plus Incentive Fee (CPIF)) as well as enhancements (CPIF) for the waveform/net services. The contract value is $64.6M. There are ten Task Orders (TO) on the contract, and TOs 1 -5, 7,and 8 are complete. None of these efforts require Earned ValueManagement (EVM).

(1) Task Order 1: Technical Support; Value = $1.2M; Period of Performance is Complete; EVMS = No.
(2) Task Order 2: Network Integration EvaluationSupport; Value = $0.148M; Period of Performance is Complete; EVMS = No.
(3) Task Order 3: Waveform Development Environment/Waveform Testing Environment (WDE/WTE) Stand up; Value = $0.826; Period of Performance is Complete; EVMS = No.
(4) Task Order 4: WNW 4.0.7 Information Assurance (IA) Fixes; Value = $2.7M; Period of Performance through November 2013; EVMS = No.
(5) Task Order 5: Technical Support; Value = $1.3M; Period of Performance is complete; EVMS = No.
(6) Task Order 6: High Assurance Internet Protocol Encryptor and Mobile Ad hoc Network Updates/Modifications; Value = $5.8M; Period of Performance through January 2014; EVMS = No.
(7) Task Order 7: Critical Information Assurance (IA) Fixes; Value = $1.2M; Period of Performance through December 2013; EVMS = No.
(8) Task Order 8: Data Dictionary; Value = $0.400M; Period of Performance is complete; EVMS = No.
(9) Task Order 9: WDE and WTE Phase 2; Value = $0.977M; PoP is through
May 2014; EVMS = No.
(10) Task Order 10: Technical Support - Year 3; Value = $0.999M; Period of Performance is through September 2014; EVMS = No.
(11) Task Order 11: Critical IA Fixes; Value = $0.799M; Period of Performance is through September 2014; EVMS = No.

Contractor and PM Estimated Ceiling Price is NA because of the ID/IQ nature of the contracts. Estimate at Completion is the sum of the awarded task orders under the contract.

Appropriation: RDT&E

Contract Name	**Soldier Radio WF SwISS**
Contractor	Harris Corporation
Contractor Location	1680 UNIVERSITY AVE ROCHESTER, NY 14610
Contract Number, Type	N66001-12-D-0043, CPFF/CPIF
Award Date	April 30, 2012
Definitization Date	July 10, 2013

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price at Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
25.8	N/A	0	25.8	N/A	0	14.6	14.6

Variance	Cost Variance	Schedule Variance
Cumulative Variances To Date	0.0	0.0
Previous Cumulative Variances	--	--
Net Change	+0.0	+0.0

Cost and Schedule Variance Explanations

None

General Contract Variance Explanation

Contract performance data is not required for this contract, as no active task order exists that exceeds the monetary threshold for earned value metrics reporting.

Contract Comments

The Soldier Radio Waveform Software In-Service Support contract is a hybrid Indefinite Delivery/Indefinite Quantity (ID/IQ) cost type contract. This contract provides for technical/general support (Cost Plus Fixed Fee), upgrades/maintenance (Cost Plus Incentive Fee (CPIF)) as well as enhancements (CPIF) for the waveform/net services. The contract value is $25.8M. There are seven Task Orders (TO) on the contract, and TO 1 is complete. This effort does not require Earned ValueManagement (EVM).

(1) Task Order 1: Technical Support; Value = $1.0M; Period of Performance is Complete; EVMS = No.
(2) Task Order 2: Combat Network Radio Pre-emption Implementation; Value = $1.0M; Period of Performance is through March 2014; EVMS = No.
(3) Task Order 3: Waveform Development Environment / Waveform Testing Environment Stand-up; Value = $2.6M; Period of Performance is throughAugust 2014; EVMS = No.
(4) Task Order 4: Technical Support; Value = $1.3M; Period of Performance is through April 2014; EVMS = No.
(5) Task Order 5: Problem Report and Network Enterprise Domain Change Proposal Implementation; Value = $1.9M; Period of Performance is through August 2014; EVMS = No.
(6) Task Order 6: Over the Air Management; Value = $5.8M; Period of Performance is through September 2015; EVMS = No.
(7) Task Order 7: RDT&E Technical Support; Value = $1.0M; Period of Performance is through October 2014; EVMS = No.

Contractor and PM Estimated Ceiling Price is N/A because of the ID/IQ nature of the contracts. Estimate at Completion is the sum of the awarded task orders under the contract.

Deliveries and Expenditures

Delivered to Date	Plan to Date	Actual to Date	Total Quantity	Percent Delivered
Development	0	0	0	--
Production	0	0	0	--
Total Program Quantity Delivered	0	0	0	--

Expended and Appropriated (TY $M)			
Total Acquisition Cost	2096.7	Years Appropriated	17
Expended to Date	1811.0	Percent Years Appropriated	47.22%
Percent Expended	86.37%	Appropriated to Date	1915.5
Total Funding Years	36	Percent Appropriated	91.36%

The above data is current as of 2/28/2014.

Operating and Support Cost

JTN

Assumptions and Ground Rules

Cost Estimate Reference:
Based on Service Cost Position as depicted in the January 16, 2008 APB, plus updates for actuals and budget adjustments through FY 2015. FY 2016 and out reflects the updated cost methodology which uses historical actual costs as the basis for developing Cost Estimating Relationships to project future costs.

Sustainment Strategy:
The JTN program office maintains software only and does not have any hardware (no quantities). JTN products are integrated (ported) onto radios and net managers that are maintained by hardware programs. Software Maintenance will continue from FY 2009 through FY 2033. Original Software Maintenance estimate was based on the methodology that maintenance begins at the end of each waveform's Formal Qualification Test and is applied as a declining percentage of initially-estimated development cost. This costing methodology was established per the Office of the Deputy Assistant Secretary of the Army for Cost and Economics recommendation (in accordance with Cost Assessment and Program Evaluation Office-accepted National Aeronautics and Space Administration standard for expected software maintenance levels) and as approved by the Under Secretary of Defense for Acquisition, Technology and Logistics during the Network Enterprise Domain's FY 2008 APB reset. However, the January 2014 Acquisition Decision Memorandum (ADM) provided the opportunity for a revised software maintenance methodology. Starting in FY 2016, the updated cost methodology uses historical actual costs as the basis for developing Cost Estimating Relationships to project future sustainment costs.

Sustainment support for the waveforms and net managers is accomplished via the Software In-Service Support contracts. These contracts provide for both the waveforms and net managers technical support, maintenance, and upgrades. JTN software is in initial fielding.

Software modifications and upgrades include repair of deficiencies reported by the user, preplanned product improvements based on emerging requirements and other types of system change packages. After testing of the modified code, updates will be released to the field as integrated builds. Major changes to the code will be released as a new version. The hardware platforms will be responsible for updating fielded system.

Antecedent Information:
Antecedent Information is not applicable for this program.

Unitized O&S Costs BY2002 $M		
Cost Element	**JTN Average Annual Cost (All Waveforms)**	**Network Enterprise Domain (Antecedent) N/A**
Unit-Level Manpower	0.000	0.000
Unit Operations	0.000	0.000
Maintenance	0.000	0.000
Sustaining Support	22.538	0.000
Continuing System Improvements	0.000	0.000
Indirect Support	0.000	0.000
Other	0.000	0.000
Total	22.538	--

Unitized Cost Comments:
Total O&S Cost = average annual cost of waveforms * planned service years: $22.538M * 25 years = $563.450M

	Total O&S Cost $M			
	Current Development APB Objective/Threshold		Current Estimate	
	JTN		JTN	Network Enterprise Domain (Antecedent)
Base Year	739.0	812.9	563.5	N/A
Then Year	1221.0	N/A	972.6	N/A

Total O&S Costs Comments:
(1) Current Estimates are lower than expected at the time of the APB due to the revised Software Maintenance Methodology and removal of the Joint Tactical Networking Center (JTNC) costs per the January 2014 ADM. Starting in FY 2016, $190M TY$ Operations and Maintenance (O&M) was estimated as RDT&E to account for 30-percent of projected maintenance fixes to be associated with a major version release. There was a change in acquisition strategy in FY 2014, which will have $30M of funding being executed out of the Army RDT&E Program Element (PE) in FY 2014 vice the Navy O&M PE. There was a decrease of $22M due to Program Review-11 in support of Multifunctional Information Distribution System's Navy O&M and Advanced Tactical Data Link Systems reduction by the Data Analysis Working Group. Additionally, there was a decrease of $4M due to miscellaneous budget adjustments.

(2) Current Estimate has decreased since the 2012 SAR due to the revised Software Maintenance Methodology and removal of the JTNC costs per the January 2014 ADM. Starting in FY 2016, $190M TY$ O&M was estimated as RDT&E to account for 30-percent of projected maintenance fixes to be associated with a major version release.

O&S Cost Variance		
Category	**Base Year 2002 $M**	**Change Explanation**
Prior SAR Total O&S Estimate December 2012	682.6	
Cost Estimating Methodology	-119.1	O&M was estimated as RDT&E to account for 30% decrease in projected maintenance due to major version release.

Cost Data Update	0.0	
Labor Rate	0.0	
Energy Rate	0.0	
Technical Input	0.0	
Programmatic/Planning Factors	0.0	
Other	0.0	
Total Changes	-119.1	
Current Estimate	563.5	

Disposal Costs:

Disposal Costs are not applicable for this program.